Determination and comparison miR135a in the serum between women with GDM, non- pregnant type 2 diabetes, healthy pregnant and control group

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Abstract

Objectives: Diabetes is one of the most important endocrine diseases caused by complex reactions between genetic and environmental factors. Recent studies have shown that microRNAs play an important role in the production, inhibition, and secretion of insulin. Identifying the relationship between key miRNAs that control the genes involved in the pathogenesis of diabetes is clinically important because it provides a way to identify preventive methods or treatments. In the present study, the expression of miR135a in serum samples between women with Gestational diabetes mellitus (GDM), non-pregnant type 2 diabetes, and healthy pregnant women were compared with the control group.

Materials and methods: This study was a case-control study and non-random sampling method was used. The present study was conducted among four groups (healthy non-pregnant women (control), non-pregnant Diabetes type 2, GDM, and healthy pregnant). After serum separation, expression of miR-135a was measured using QRT-PCR technique and the results were analyzed by Stata and SPSS21 software.

Results: The results show that the mean expression of miR-135a gene in control group was 0.9 +/- 0.06, control of pregnancy was 1 +/- 0.1, GDM group was 1.7 +/- 0.3 and non-pregnant diabetic type 2 group was 6 +/- 6 / 3. The results of analysis of variance showed that the mean difference of miR-135 gene expression was significant higher in the non-pregnant type 2 diabetes than GDM group ($F = 2776.3$, $P < 0.001$).

Conclusion: The widespread role of miRNAs as post-transplantation gene regulators in gestational diabetes mellitus suggests that miR135a may act as a potential indicator of the prevention, treatment, and management of gestational diabetes.

Keywords

Author Keywords: miR135a; non- pregnant type 2 diabetes; gestational diabetes mellitus; QRT-PCR
KeyWords Plus: MICRORNAS; MELLITUS; EXPRESSION; DIAGNOSIS; DISEASES; MUSCLE

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